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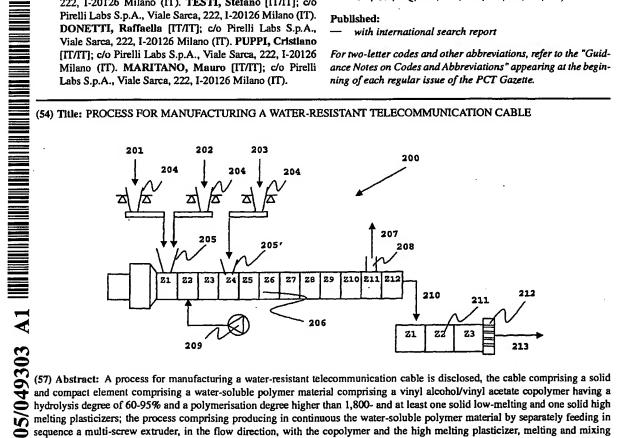
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melting plasticizers; the process comprising producing in continuous the water-soluble polymer material by separately feeding in sequence a multi-screw extruder, in the flow direction, with the copolymer and the high melting plasticizer, melting and mixing them while transporting them through the extruder, and with the low melting plasticizer, melting and mixing it with the copolymer and the high melting plasticizer, subsequently homogenizing the copolymer and the plasticizers and finally discharging the melt, at a temperature lower or equal to 205°C. The invention further concerns a process for extruding the above PVA based water-soluble polymer material. The process of the invention allows to extrude PVA with an enhanced productivity and reproducibility requiring shorter times for absorbing the plasticizers onto the polymer.